

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: ROUND POND	Lake Area (ha): 4.45
Town: NOTTINGHAM	Maximum depth (m): 15.8
County: Rockingham	Mean depth (m): 3.7
River Basin: Coastal	Volume (m ³): 138000
Latitude: 43°06'53" N	Relative depth: 7.3
Longitude: 71°10'37" W	Shore configuration: 2.62
Elevation (ft): 315	Areal water load (m/yr): 17.58
Shore length (m): 1800	Flushing rate (yr ⁻¹): 4.80
Watershed area (ha): 137.3	P retention coeff.: 0.49
% watershed ponded: 0.0	Lake type: natural

BIOLOGICAL:

		14 January 1993	10 August 1992
DOM. PHYTOPLANKTON (% TOTAL)	#1	FILAM. BL-GR SPP. 75%	APHANIZOMENON 75%
	#2	SYNEDRA 25%	MICROCYSTIS 10%
	#3		COELOSPHAERIUM 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)			16330
CHLOROPHYLL-A (µg/L)			63.68
DOM. ZOOPLANKTON (% TOTAL)	#1	NAUPLIUS LARVA 50%	KELLICOTTIA 63%
	#2	KELLICOTTIA 36%	NAUPLIUS LARVA 14%
	#3		CYCLOPOID COPEPODS 12%
ROTIFERS/LITER		104	796
MICROCRUSTACEA/LITER		134	370
ZOOPLANKTON ABUNDANCE (#/L)		238	1166
VASCULAR PLANT ABUNDANCE			Very abundant
SECCHI DISK TRANSPARENCY (m)			0.8
BOTTOM DISSOLVED OXYGEN (mg/L)		0.0	0.3
BACTERIA (E. coli, #/100 ml)	#1		10
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.5
Hypolimnion volume (m³): 30000
Anoxic volume (m³): 50500

CHEMICAL:

Lake: ROUND POND
Town: NOTTINGHAM

	14 January 1993		10 August 1992		
DEPTH (m)	3.5		1.0	4.5	11.0
pH (units)	4.2		6.9	6.2	6.5
A.N.C. (Alkalinity)	-3.7		8.2	9.3	23.1
NITRATE NITROGEN	0.22		< 0.02	< 0.02	< 0.02
TOTAL KJELDAHL NITROGEN	0.16				
TOTAL PHOSPHORUS	0.011		0.042	0.039	0.247
CONDUCTIVITY (μ mhos/cm)	126.5		34.6	39.3	58.8
APPARENT COLOR (cpu)	22		55	38	42
MAGNESIUM			1.08		
CALCIUM			2.9		
SODIUM			1.7		
POTASSIUM			0.31		
CHLORIDE	7		< 3	< 3	< 3
SULFATE	5		4	5	3
TN : TP	35				
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

D.O. S.D. PLANT CHL TOTAL CLASS

6	5	6	6	23	Eutro.
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COMMENTS:

1. Round Pond is the most eutrophic stratified pond that has been classified to date. It received one trophic point less than the maximum possible. If the water clarity (Secchi disk) had been .5 meters rather than .8 meters, the pond would have received the maximum trophic points.
2. Interestingly, this most eutrophic pond is located within Pawtuckaway State Park and has no development around its shores.
3. Gas bubbles rose to the surface when the anchor landed in the bottom muck.
4. The wholewater phytoplankton was 90% blue-green algae, with Aphanizomenon (85%) the dominant genera.

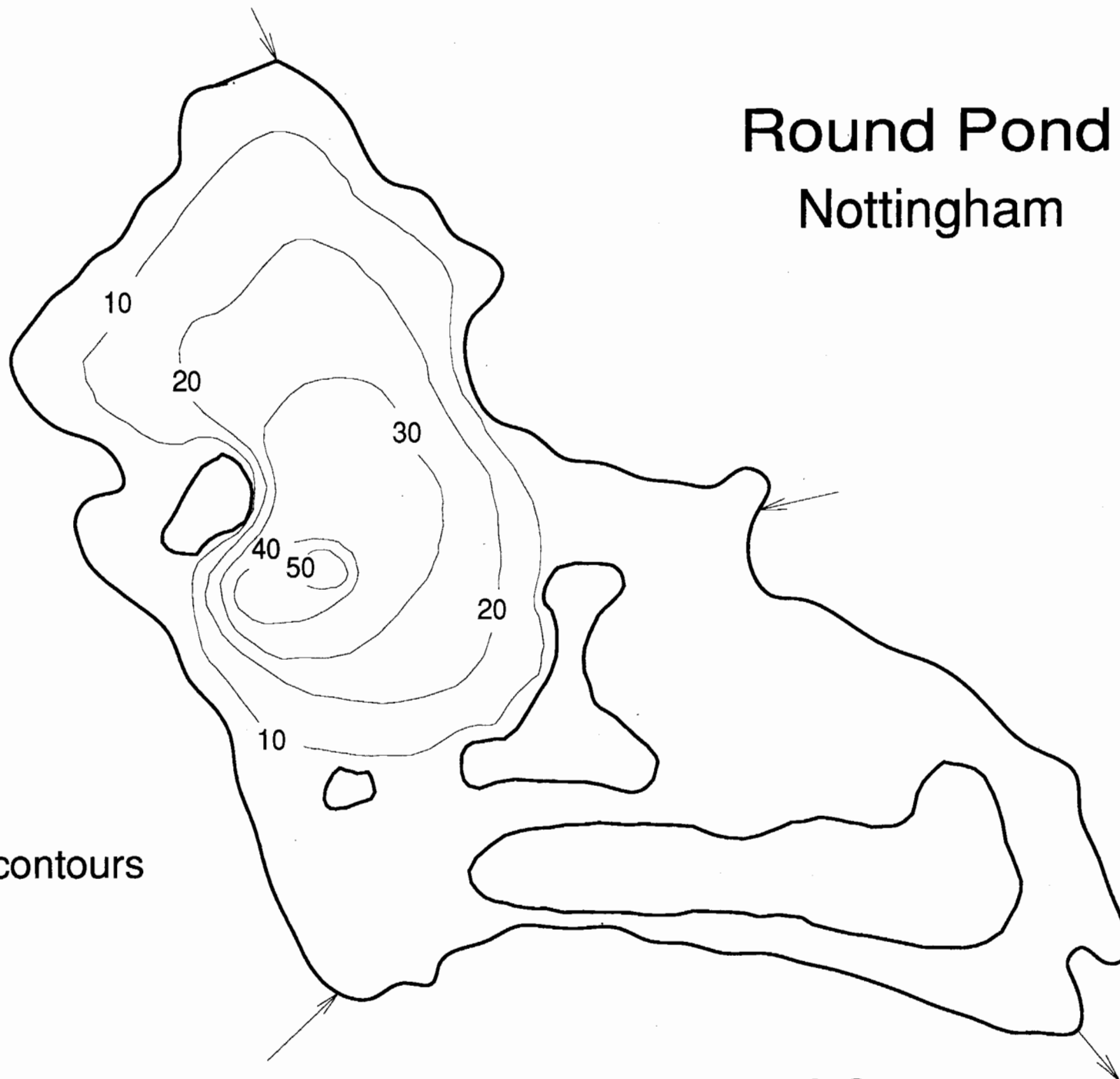
Round Pond Nottingham

N



111-256

5 foot depth contours



0

0.2

Km

[illegible]

Round Pond Nottingham

N

111-258

0.2

Km

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